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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:  
Bharat Aggarwal

Serial No.: 10/602,303

Filed: June 24, 2003

For: TREATMENT OF HUMAN MULTIPLE  
MYELOMA BY CURCUMIN

Group Art Unit: 1642

Examiner: Unknown

Atty. Dkt. No.: CLFR:234US

CERTIFICATE OF MAILING  
37 C.F.R 1.8

I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as First Class Mail in an envelope addressed to: MS AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date below:

May 5, 2005

Date

David L. Parker

INFORMATION DISCLOSURE STATEMENT

**MS AMENDMENT**  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Sir:

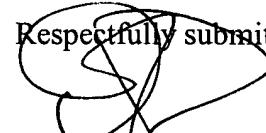
In compliance with the duty of disclosure under 37 C.F.R. § 1.56, it is respectfully requested that this Information Disclosure Statement be entered and the documents listed on attached Form PTO-1449 be considered by the Examiner and made of record. Copies of the listed documents required by 37 C.F.R. § 1.98(a)(2) are enclosed for the convenience of the Examiner.

In accordance with 37 C.F.R §§ 1.97(g), (h), this Information Disclosure Statement is not to be construed as a representation that a search has been made, and is not to be construed to be

an admission that the information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

The present Information Disclosure Statement is being filed prior to the receipt of a first Official Action reflecting an examination on the merits, and hence is believed to be timely filed in accordance with 37 C.F.R. § 1.97(b). No fees are believed to be due in connection with the filing of this Information Disclosure Statement, however, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be deemed necessary for any reason relating to these materials, the Commissioner is authorized to deduct the appropriate fees from Fulbright & Jaworski Deposit Account No.: 50-1212/CLFR:234US.

Applicant respectfully requests that the listed documents be made of record in the present case.

Respectfully submitted,  


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Attorney for Applicant

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Date: May 5, 2005

Form PTO-1449 (modified)

Atty. Docket No.  
CLFR:234USSerial No.  
10/602,303

## List of Patents and Publications for Applicant's

## INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Applicant  
Bharat AggarwalFiling Date:  
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1642

## U.S. Patent Documents

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## Foreign Patent Documents

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## Other Art

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## U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A1	2001/0025034	11/27/01	Arbiser	514	114	1/18/01
	A2	2002/0019382	2/14/02	Snyder <i>et al.</i>	514	210.2	12/4/00
	A3	2002/0035090	3/21/02	Zeldis	514	58	5/14/01
	A4	2004/002499	1/01/04	Aggarwal	514	251	4/24/03
	A5	2005/0049299	3/03/05	Aggarwal	514	456	8/25/04
	A6	5,891,924	4/6/99	Aggarwal	514	679	9/26/96

## Foreign Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Country	Class	Sub Class	Translation Yes/No
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## Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C1	Brennan <i>et al.</i> , "Inhibition of nuclear factor kappaB by direct modification in whole cells--mechanism of action of nordihydroguaiaretic acid, curcumin and thiol modifiers," <i>Biochem. Pharmacol.</i> , 55:965-973, 1998.
	C2	Cheng <i>et al.</i> , "Phase I chemoprevention clinical trial of curcumin," <i>Proc. Am. Soc. Clin. Oncol.</i> 17:558a, 1998.
	C3	Estrov <i>et al.</i> , "Phenylarsine oxide blocks interleukin-1beta-induced activation of the nuclear transcription factor NF-kappaB, inhibits proliferation, and induces apoptosis of acute myelogenous leukemia cells," <i>Blood</i> , 94:2844-2853, 1999.
	C4	Feinman <i>et al.</i> , "Role of NF-kappaB in the rescue of multiple myeloma cells from glucocorticoid-induced apoptosis by bcl-2," <i>Blood</i> , 93:3044-3052, 1999.

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1 List of Patents and Publications for Applicant's  
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1642U.S. Patent Documents  
See Page 1Foreign Patent Documents  
See Page 1Other Art  
See Page 1**Other Art (Including Author, Title, Date Pertinent Pages, Etc.)**

Exam. Init.	Ref. Des.	Citation
	C5	Giri and Aggarwal, "Constitutive activation of NF-kappaB causes resistance to apoptosis in human cutaneous T cell lymphoma HuT-78 cells. Autocrine role of tumor necrosis factor and reactive oxygen intermediates," <i>J. Biol. Chem.</i> , 273:14008-14014, 1998.
	C6	Han <i>et al.</i> , "Curcumin causes the growth arrest and apoptosis of B cell lymphoma by downregulation of egr-1, c-myc, bcl-XL, NF-kappa B, and p53," <i>Clin. Immunol.</i> , 93:152-161, 1999.
	C7	Hour <i>et al.</i> , "Curcumin enhances cytotoxicity of chemotherapeutic agents in prostate cancer cells by inducing p21(WAF1/CIP1) and C/EBPbeta expressions and suppressing NF-kappaB activation," <i>Prostate</i> , 51:211-218, 2002.
	C8	Huang <i>et al.</i> , "Effect of dietary curcumin and dibenzoylmethane on formation of 7,12-dimethylbenz[a]anthracene-induced mammary tumors and lymphomas/leukemias in Sencar mice," <i>Carcinogenesis</i> , 19:1697-1700, 1998.
	C9	Ichiki <i>et al.</i> , "Regulation of activator protein-1 activity in the mediastinal lymph node metastasis of lung cancer," <i>Clin. Exp. Metastasis</i> , 18:539-545, 2001.
	C10	Inano <i>et al.</i> , "Chemoprevention by curcumin during the promotion stage of tumorigenesis of mammary gland in rats irradiated with gamma-rays," <i>Carcinogenesis</i> , 20:1011-1018, 1999.
	C11	Jaffe <i>et al.</i> , "Adjuvant methotrexate and citrovorum-factor treatment of osteogenic sarcoma," <i>N. Engl. J. Med.</i> , 291:994-997, 1974.
	C12	Jang <i>et al.</i> , "A curcuminoid and sesquiterpenes as inhibitors of macrophage TNF-alpha release from Curcuma zedoaria," <i>Planta Med.</i> 67:550-552, 2001.
	C13	Jaruga <i>et al.</i> , "Apoptosis-like, reversible changes in plasma membrane asymmetry and permeability, and transient modifications in mitochondrial membrane potential induced by curcumin in rat thymocytes," <i>FEBS Lett.</i> , 433(3):287-293, 1998.
	C14	Jobin <i>et al.</i> , "Curcumin blocks cytokine-mediated NF-kappa B activation and proinflammatory gene expression by inhibiting inhibitory factor I-kappa B kinase activity," <i>J. Immunol.</i> , 163:3474-3483, 1999.
	C15	Kawamori <i>et al.</i> , "Chemopreventive effect of curcumin, a naturally occurring anti-inflammatory agent, during the promotion/progression stages of colon cancer," <i>Cancer Res.</i> 59:597-601, 1999.

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### Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C16	Kumar <i>et al.</i> , "Curcumin (Diferuloylmethane) inhibition of tumor necrosis factor (TNF)-mediated adhesion of monocytes to endothelial cells by suppression of cell surface expression of adhesion molecules and of nuclear factor-kappaB activation," <i>Biochem. Pharmacol.</i> , 55:775-783, 1998.
	C17	Mehta <i>et al.</i> , "Antiproliferative effect of curcumin (diferuloylmethane) against human breast tumor cell lines," <i>Anti-Cancer Drugs</i> , 8:470-481, 1997.
	C18	Menon <i>et al.</i> , "Anti-metastatic activity of curcumin and catechin," <i>Cancer Lett.</i> , 141:159-165, 1999.
	C19	Mohan <i>et al.</i> , "Curcuminoids inhibit the angiogenic response stimulated by fibroblast growth factor-2, including expression of matrix metalloproteinase gelatinase B," <i>J. Biol. Chem.</i> , 275:10405-10412, 2000.
	C20	Navis <i>et al.</i> , "Dietary curcumin with cisplatin administration modulates tumour marker indices in experimental fibrosarcoma," <i>Pharmacol. Res.</i> , 39:175-179, 1999.
	C21	Ni <i>et al.</i> , "Analysis of expression of nuclear factor kappa B (NF-kappa B) in multiple myeloma: downregulation of NF-kappa B induces apoptosis," <i>Br. J. Haematol.</i> 115:279-286, 2001.
	C22	Pahl <i>et al.</i> , "Activators and target genes of Rel/NF-kappaB transcription factors," <i>Oncogene</i> , 18:6853-6866, 1999.
	C23	Pan <i>et al.</i> , "Comparative studies on the suppression of nitric oxide synthase by curcumin and its hydrogenated metabolites through down-regulation of IkappaB kinase and NFkappaB activation in macrophages," <i>Biochem. Pharmacol.</i> , 60:1665-1676, 2000.
	C24	Plummer <i>et al.</i> , "Inhibition of cyclo-oxygenase 2 expression in colon cells by the chemopreventive agent curcumin involves inhibition of NF-kappaB activation via the NIK/IKK signalling complex," <i>Oncogene</i> , 18:6013-6020, 1999.
	C25	Podar <i>et al.</i> , "Essential role of caveolae in interleukin-6- and insulin-like growth factor I-triggered Akt-1-mediated survival of multiple myeloma cells," <i>J. Biol. Chem.</i> , 278(8):5794-801, 2002.
	C26	Ramachandran <i>et al.</i> , "Differential sensitivity of human mammary epithelial and breast carcinoma cell lines to curcumin," <i>Breast Cancer Res. and Treat.</i> , 54:269-278, 1999.

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	C27	Rao <i>et al.</i> , "Chemoprevention of colon carcinogenesis by dietary curcumin, a naturally occurring plant phenolic compound," <i>Cancer Res.</i> , 55:259-266, 1995.
	C28	Shishodia and Aggarwal, "Nuclear factor-B activation: a question of life and death," <i>J. Biochem Mol. Biol.</i> , 35:28-40, 2002.
	C29	Simon <i>et al.</i> , "Inhibitory effect of curcuminoids on MCF-7 cell proliferation and structure-activity relationships," <i>Cancer Lett.</i> , 129:111-116, 1998.
	C30	Singh and Aggarwal, "Activation of transcription factor NF-kappa B is suppressed by curcumin (diferuloylmethane)" <i>J. Biol. Chem.</i> , 270:24995-25000, 1995.
	C31	Singletary <i>et al.</i> , "Inhibition of 7,12-dimethylbenz[a]anthracene (DMBA)-induced mammary tumorigenesis and DMBA-DNA adduct formation by curcumin," <i>Cancer Lett.</i> , 103:137-141, 1996.
	C32	Sonneveld <i>et al.</i> , "Cyclosporin A combined with vincristine, doxorubicin and dexamethasone (VAD) compared with VAD alone in patients with advanced refractory multiple myeloma: an EORTC-HOVON randomized phase III study (06914)," <i>Br. J. Haematol.</i> , 115(4):895-902.
	C33	Westerheide <i>et al.</i> , "The putative oncoprotein Bcl-3 induces cyclin D1 to stimulate G(1) transition" <i>Mol. Cell. Biol.</i> 21:8428-8436, 2001.
	C34	Zhang <i>et al.</i> , "Zhongguo Yaolixue Tongbao, 17(6):702-704, 2001 (Abstract).
	C35	Zhang <i>et al.</i> , "Curcumin inhibits cyclooxygenase-2 transcription in bile acid- and phorbol ester-treated human gastrointestinal epithelial cells," <i>Carcinogenesis</i> , 20:445-451, 1999.
	C36	Zhang <i>et al.</i> , "Tyrosine kinase inhibitor emodin suppresses growth of HER-2/neu-overexpressing breast cancer cells in athymic mice and sensitizes these cells to the inhibitory effect of paclitaxel," <i>Clin. Cancer Res.</i> , 5:343-353, 1999.

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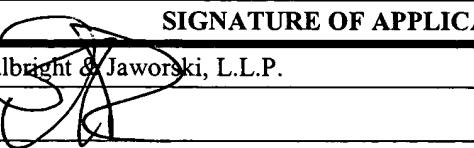
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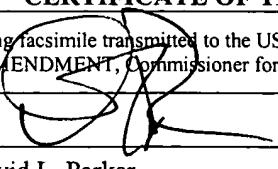
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		<b>Filing Date:</b>	June 24, 2003		
		<b>First Named Inventor:</b>	Bharat Aggarwal		
		<b>Art Unit:</b>	1642		
		<b>Examiner Name:</b>	Unknown		
<b>Number of Pages in this Submission :</b>		<b>Attorney Docket Number:</b>			
<b>ENCLOSURES (check all that apply)</b>					
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached  <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s)  <input type="checkbox"/> Extension of Time Request  <input type="checkbox"/> Express Abandonment Request  <input checked="" type="checkbox"/> Information Disclosure Statement <input checked="" type="checkbox"/> Form PTO-1449 <input checked="" type="checkbox"/> References <u>A1-A6, C1-C36</u>  <input type="checkbox"/> Certified Copy of Priority Documents  <input type="checkbox"/> Reply to Missing Parts/ Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53 <input type="checkbox"/> Declaration(s) <input type="checkbox"/> Copy of Notice of Missing Parts		<input type="checkbox"/> Drawings(s) _____ <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation, Change of Correspondence Address <input type="checkbox"/> Statement under 37 CFR §3.73(b) <input type="checkbox"/> Designation of Patent Practitioners <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number CD(s) _____ <input type="checkbox"/> Landscape Table on CD		<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below) <input type="checkbox"/> Check in the amount of \$ _____ <input checked="" type="checkbox"/> Authorized to be charged to deposit account if check insufficient or inadvertently omitted Deposit account number: <u>50-1212/CLFR:234US</u> <input type="checkbox"/> Sequence Statement <input type="checkbox"/> Paper Copy of Sequence Listing <input type="checkbox"/> Computer Readable Form (CRF) <input checked="" type="checkbox"/> Postcard <input type="checkbox"/> _____ <input type="checkbox"/> _____	
<b>Remarks:</b>					

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm Name	Fulbright & Jaworski, L.L.P.		Customer Number	32425
Signature				
Printed Name	David L. Parker	Reg. No.	32,165	
Date	May 5, 2005			

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Signature			
Typed or Printed Name	David L. Parker	Date	May 5, 2005